

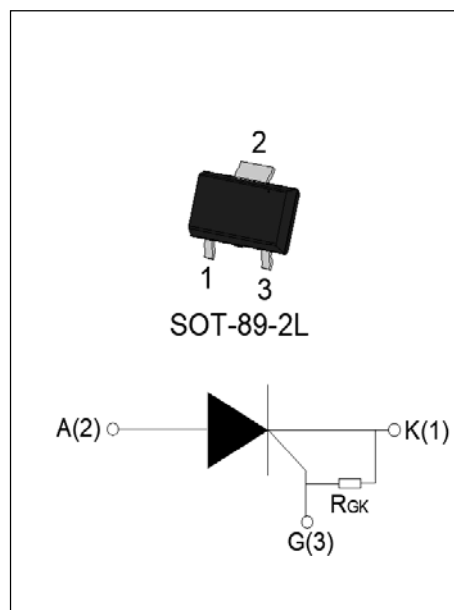


JR0105N2 1A SCR

Rev.A.1.0

The JR0105N2 SCR with the parallel resistor between Gate and Cathode, $R_{GK} \leq 1 \Omega$ is especially recommended for use on straight hair, igniter, anion generator, etc. Package SOT-89-2L is RoHS compliant.

Symbol	Value	Unit
$I_{T(RMS)}$	1	A
V_{DRM}/V_{RRM}	600	V
I_{GT}	m200	A



Parameter	Symbol	Value	Unit
Storage junction temperature range	T_{stg}	-40-150	
Operating junction temperature range	T_j	-40-125	
Repetitive peak off-state voltage ($T_j=25^\circ C$)	V_{DRM}	600	V
Repetitive peak reverse voltage ($T_j=25^\circ C$)	V_{RRM}	600	V
Average on-state current ($T_c = 54^\circ C$)	$I_{T(AV)}$	0.6	A
RMS on-state current ($T_c = 54^\circ C$)	$I_{T(RMS)}$	1	A
Non repetitive surge peak on-state current ($t_p=10ms, T_j=25^\circ C$)	I_{TSM}	10	A
Non repetitive surge peak on-state current ($t_p=8.3ms, T_j=25^\circ C$)		11	
I^2t value for fusing ($t_p=10ms, T_j=25^\circ C$)	I^2t	0.5	A^2s
Critical rate of rise of on-state current ($I_G=2 \times I_{GT}, f=100Hz, T_j=125^\circ C$)	di/dt	50	$A/\mu s$
Peak gate current ($t_p=20 \mu s, T_j=125^\circ C$)	I_{GM}	1	A
Average gate power dissipation ($T_j=125^\circ C$)	$P_{G(AV)}$	0.1	W

Peak gate power	P_{GM}	2	W
Peak pulse voltage ($T_j=25$; non-repetitive,off-state;FIG.8)	V_{pp}	0.5	kV

NOTE 1: When we parallel connect a $\leq 1K\Omega$ resistor between Gate and Cathode, the T_j can reach 125 ; if without this resistor, the T_j only can reach 110 .

($T_j=25$ unless otherwise specified)

Symbol	Test Condition	Value			Unit
		MIN.	TYP.	MAX.	
I_{GT}	$V_D=12V R_L=33$	-	50	200	A
V_{GT}		-	0.6	0.8	V
V_{GD}	$V_D=V_{DRM} T_j=125$	0.2	-	-	V
I_L	$I_G=1.2 I_{GT}$	-	-	3	mA
I_H	$I_T=0.05A$	-	-	2	mA
dV/dt	$V_D=400V T_j=125 R_{GK}=1K$	50	-	-	V/s
	$V_D=400V T_j=125 R_{GK}=220$	250	-	-	
t_{on}	$I_G=10mA I_A=20mA I_R=2mA$ $T_j=25$	-	2	-	s
t_{off}		-	50	-	

Symbol	Parameter		Value(MAX.)	Unit
V_{TM}	$I_{TM}=1.6A t_p=380 s$	$T_j=25$	1.4	V
V_{TO}	Threshold voltage	$T_j=125$	0.77	V
R_D	Dynamic resistance	$T_j=125$	0.18	
I_{DRM}	$V_D=V_{DRM} V_R=V_{RRM}$	$T_j=25$	5	A
I_{RRM}		$T_j=125$	0.1	mA

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	junction to case (DC)	55	/W
$R_{th(j-a)}$	junction to ambient (DC,in free air, $S=5 cm^2$)	100	/W

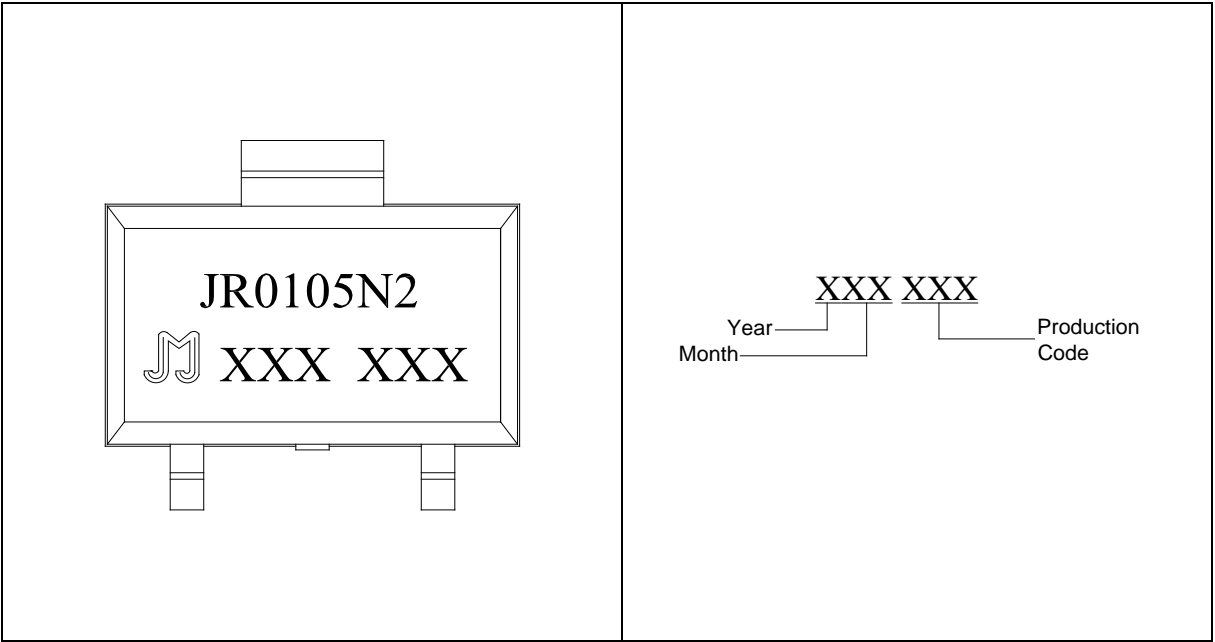
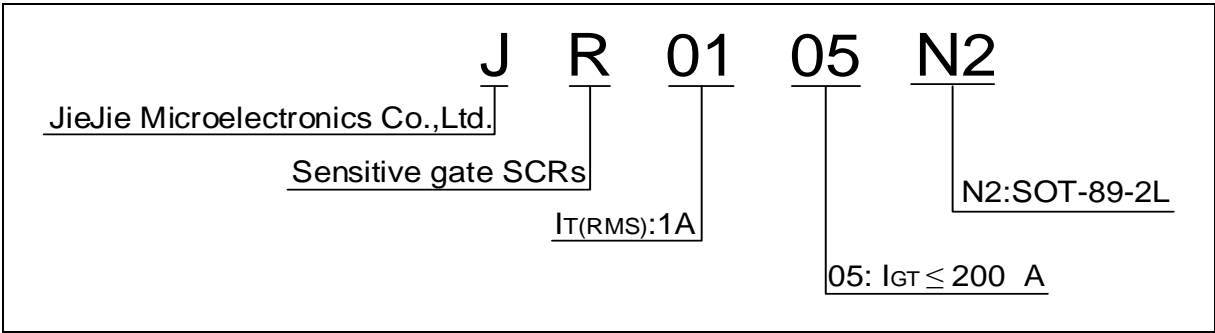


FIG.1 Maximum power dissipation versus RMS on-state current

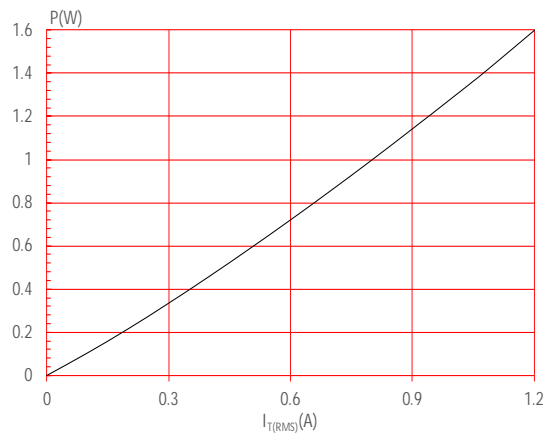


FIG.2: RMS on-state current versus case temperature

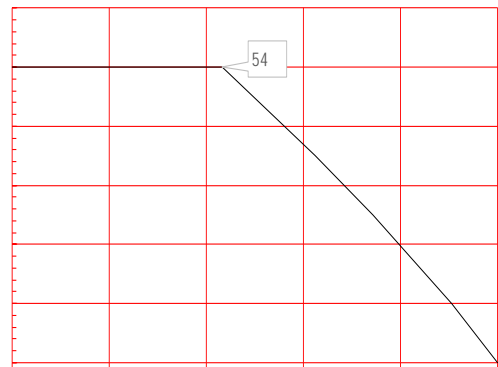


FIG.7: Relative variations of gate trigger current, holding current and latching current versus junction temperature

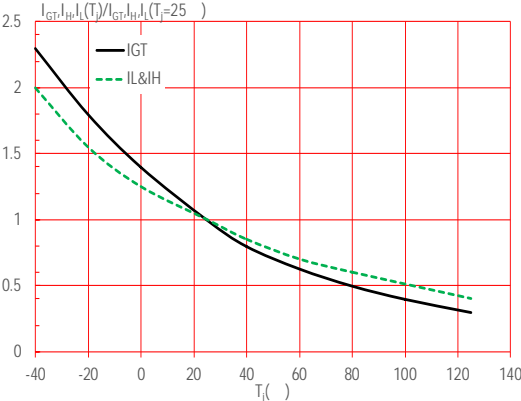
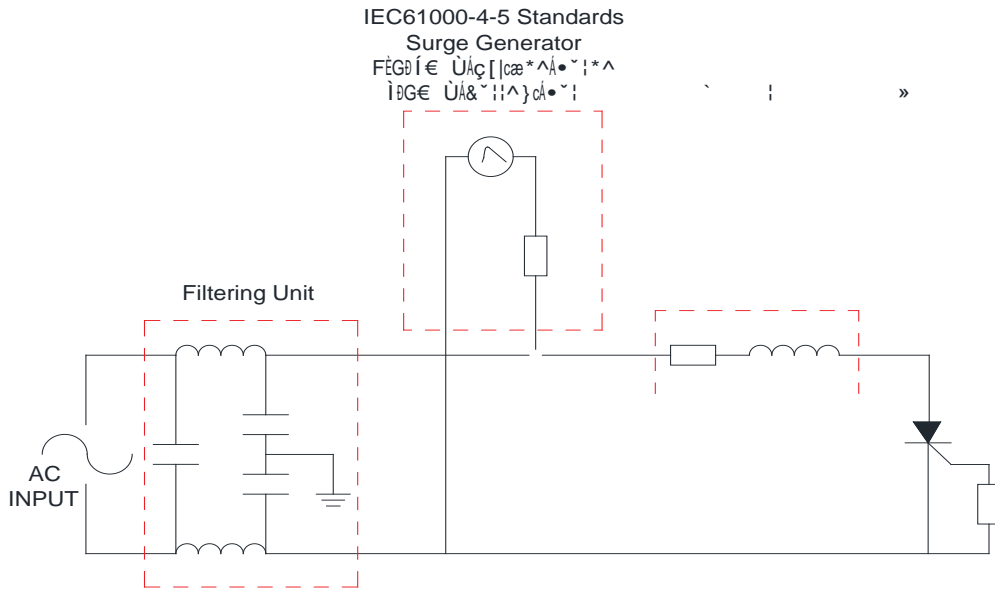


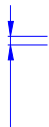
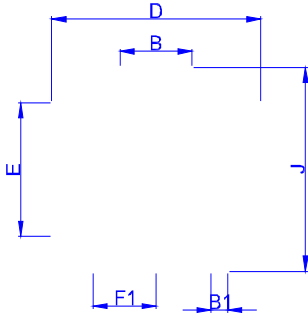
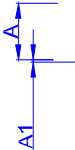
FIG.8 Test circuit for inductive and resistive loads to IEC-61000-4-5 standards

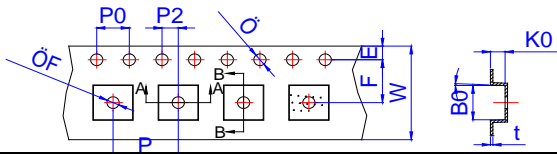


Order code	Voltage V_{DRM}/V_{RRM} (V)	IGT(μ A)	Package	Base qty. (pcs)	Delivery mode
JR0105N2	600	≤ 200	SOT-89-2L	4000	Tape & Reel

Document Revision History

Date	Revision	Changes
Apr.10, 2023	A.1.0	Last update





Ref.	Dimensions					
	Millimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
E	1.65	1.75	1.85	0.065	0.069	0.073
F	5.45	5.50	5.55	0.215	0.217	0.219
P2	1.90	2.00	2.10	0.075	0.079	0.082
D	-	1.50	1.60	-	0.059	0.063
D1	1.50			0.059		
P0	3.90	4.00	4.10	0.154	0.157	0.161
10P0	39.80	40.00	40.20	1.567	1.575	1.583
W			12.30			0.482
P	7.90	8.00	8.10	0.311	0.315	0.319
A0	5.20	5.30	5.40	0.204	0.208	0.212
B0	4.80	4.90	5.00	0.188	0.192	0.196
					0.073	0.076
					0.010	0.012
						5°

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